



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,081	12/10/2003	Simon Sabato	23019-07441	7960

758 7590 03/26/2007
FENWICK & WEST LLP
SILICON VALLEY CENTER
801 CALIFORNIA STREET
MOUNTAIN VIEW, CA 94041

EXAMINER

VIANA DI PRISCO, GERMAN

ART UNIT	PAPER NUMBER
----------	--------------

2609

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/26/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No. 10/734,081	Applicant(s) SABATO ET AL.	
	Examiner German Viana Di Prisco	Art Unit 2609	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12/10/2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05/26/2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>05/10/2004</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Information Disclosure Statement

The information disclosure statement submitted on 05/10/2004 been considered by the Examiner and made of record in the application file.

Drawings

The drawings were received on 05/26/2004. These drawings are accepted.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1 and 3 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sindhu et al. (U.S. Patent No.: 6,493,347 B2) in view of Yin et al. (U.S. Patent No.: 6,810,012 B1).

Consider claim 1, Sindhu et al. clearly disclose a router for switching data packets wherein packets are allocated or dropped (queuing operation) in a particular queue (at least one of the queue sets as a single entity) based on the amount of data that can be stored in the queue (target size) (column 19 lines 26-30).

Sindhu et al. further disclose that the size of a queue is proportional to the bandwidth allocated to said queue (column 18 lines 37-50).

However Sindhu et al. fail to disclose that the queue service interval for a data rate is based upon the queue set target size.

In the same field of endeavor, Yin et al. disclose a queue service scheduler wherein the service interval used to service each queue is inversely proportional to the assigned bandwidth (column 3 lines 43-47).

Therefore it would have been obvious to a person of ordinary skill in the art, at the time the invention was made, to perform queuing operations including determining the queue service interval based on the allocated bandwidth as disclosed by Yin et al. in the router of Sindhu et al. in order to provide an efficient queue management method.

Consider claim 3, and as applied to claim 1 above, Sindhu et al. clearly disclose a router for switching data packets wherein packets are allocated or dropped (queuing operation) in a particular queue (at least one of the queue sets as a single entity) based on the amount of data that can be stored in the queue (target size) (column 19 lines 26-30).

However, Sindhu et al. do not disclose performing traffic shaping on at least one of the queue sets.

In the same field of endeavor Yin et al. clearly show and disclose a queue service scheduler wherein traffic shaping is performed for a set of queue groups (figures 8 and 9, column 7 lines 24-30).

Therefore it would have been obvious for a person of ordinary skill in the art at the time the invention was made to perform traffic shaping for a set of queue groups as disclosed by Yin et al. in the router of Sindhu et al. in order to limit the data rate.

Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Sindhu et al. (U.S. Patent No.: 6,493,347 B2) in view of Yin et al. (U.S. Patent No.: 6,810,012 B1) as applied to claim 1 above, and further in view of Braden et al. (Recommendations on Queue Management and Congestion Avoidance in the Internet).

Consider claim 2, and as applied to claim 1 above, the combination of Sindhu et al. and Yin et al. teach that the queue service interval is based upon the queue target size. However the combination of Sindhu et al. and Yin et al. fail to teach that an average queue size is determined over a period of time and that the queue service interval is adjusted based upon the difference between the average queue size and the target queue size.

In the same field of endeavor, Braden et al. disclose a queue management algorithm wherein an average queue size is determined using a simple exponentially weighted average (i.e., over a period of time)(page 7).

Therefore it would have been obvious to a person of ordinary skill in the art, at the time the invention was made to determine an average queue size over a period of time as taught by Braden et al. and adjust the queue service interval based upon the change in queue size from the target value to average value in the router of Sindhu et al. as modified by Yin et al. in order to provide an efficient queue management method.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Aweya et al. (U.S. Patent No.: 6,961,307 B1) disclose a queue managing mechanism wherein the allocation of packets is determined by the queue size and a target queue size. Chang et al. (U.S. Patent No.: 5,634,015) disclose a generic adapter manager, which organizes packets into queues and defines a queue set, which

Art Unit: 2609

can be treated as one operand for a given queue set operation. McDysan et al. disclose a network wherein a scheduler services queues and shapes the traffic to a given rate. Dinakar et al. (U.S. Patent No.: 6,359,900 B1) disclose a method for controlling access to a resource wherein a plurality of service queues are established according to the requested resource, and each queue is assigned a service interval based on the requested amount of the resource. Freed et al. (U.S. Patent No.: 7,088,678 B1) disclose a system and method for traffic shaping based on generalized congestion and flow control. Craig et al. (United States Patent Application Publication No.: 2001/0024446 A1) disclose a system and method for data queuing. Pankaj et al. (United States Patent Application Publication No.: 2001/0006508 A1) disclose a system for allocating resources in a communications system. Woo et al. (United States Patent Application Publication No.: 2001/0112817 A1) disclose a method and apparatus for differentiated services over a packet network.

Any response to this Office Action should be **faxed to (571) 273-8300 or mailed to:**

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Hand-delivered responses should be brought to

Customer Service Window
Randolph Building
401 Dulany Street
Alexandria, VA 22314

Art Unit: 2609

Any inquiry concerning this communication or earlier communications from the examiner should be directed to German Viana Di Prisco whose telephone number is (571) 270-1781. The examiner can normally be reached on Monday through Friday 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Rafael Perez-Gutierrez can be reached on (571) 272-7915. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

German Viana Di Prisco
G.V.D.P/gvdp


RAFAEL PEREZ-GUTIERREZ
SUPERVISORY PATENT EXAMINER

3/12/07

March 8, 2007